

Some proposed additions to Clark's colour notation for British Acrididae (Orthopt.)

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Clark's notation for the colour varieties of Grasshoppers (1943) will, no doubt, be more widely used now that a summary of it has been available in a more readily obtainable form (Ragge, 1965) for some three years. Although intended as a practical system, ambiguities are unavoidable if it is oversimplified, and several forms cannot be described if it is used as at present. The following proposed alterations and additions are ones that I have used myself last season, and I hope that they may be of some use.

In several species, particularly *Myrmeleotettix maculatus* Thunberg, there is often a difference in pigmentation between the prozona and metazona of the pronotum. Using the system as it stands, such a specimen could be described thus:

T vv-bm vv-bbm . . . P fm vv-bm cl a, etc.

This is totally inadequate, as the two colours are not mottled, but separated into clear bands. Neither can one tell which band is at which end of the pronotum. It could be avoided by the addition of -a and -p respectively for the metazona and prozona, as is done for other features. The example above would become:

T vv-b vv-bbm P fma v fmp v-b cl a, etc.

I believe these varieties are more common than is generally thought, but the hind part of the pronotum is usually the darker, and tends to blend in with the upper surface of the elytra.

There are two lines bordering the fascia postocularis of the head, of which one may be absent. Clark named both, describing the light line as the linea lateralis, and the dark one as the fascia postocularis lateralis. After Richards and Waloff (1954), and Ragge (1965), it is customary to refer to only one of these lines, under the heading of the fascia postocularis, e.g. fp. b & n. This is suitable for a species like *Chorthippus albomarginatus* (Degeer) in which the linea lateralis is normally absent, but not for the others, as only one of the lines can be recorded, the one chosen depending on their relative prominence. Or worse, a broad linea lateralis as in *Stenobothrus lineatus* (Panzer) may be referred to as a 'pale fascia postocularis', and be interpreted as synonymous with the fascia postocularis interna of Clark. It would therefore be better if the dark bordering line were to be included under the heading of 'fp', and the linea lateralis recorded separately. Under this system, a typical record for the head would be:

C fm v li b fp g & n ll a.

Both coarse and fine spotting or mottling can be accounted for by Clark's notation, but not lining. Dark lines, such as those sometimes running inside the stria postularis on the elytra of *M. maculatus* for about two-thirds of its length, are frequent, but not sufficiently so to be worth giving separate names. Conspicuous lining may often be found running horizontally along the outer surface of the hind femur of *Chorthippus parallelus* (Zetterstedt), and probably in other species. I

propose the symbol *l* (*lineatus*) for such cases. An example of its use in the description of elytral colouration, from a 'semi-mottled' variety of *M. maculatus*, is:

E *g b-nl gbb-nm gbb-nm st a ls a sp b-a*.

It is open to question whether coarse mottling in the position of a common feature, like the *stria postulnaris*, but on the same ground colour as the surrounding area should be included under the heading of the whole area. For example, if the mottling is in the position of the *stria postulnaris*, which of the following is the better: E *gbm gbm gbm st a* or E *g gbm gbm st a sp gbm*? I consider that the latter is more explicit, but the borderline cases are difficult. Quite a strong disruptive effect can be produced by mottling in the form of two different shades of the same colour, even when neither can be described as that colour compounded with black or white. Considering the practical intention of this notation, to invent symbols denoting 'light' or 'dark' would lead to an unnecessary attention to minutiae. Unusually dark or light shades can be described as *b-n* or *v-a* for example. If there is mottling where neither can be considered as such, doubling of the colour thus: *bbm* or *vvm*, does not produce any ambiguity.

The elytron may often appear darker than it actually is, as a result of the darkness of the hind wings. Indeed, the elytra may be completely lacking in pigment and still appear brown, particularly in *C. albomarginatus*, e.g. in a 'brown brown mottled sides' male: E *b-a - -*. It is probably best to describe these by their apparent colour as it is difficult to distinguish them unless the elytron is drawn forward, and it is impractical to do this for many specimens in the field. The shade thrown by the body also makes the wings seem darker. The darkening towards the tip affects the lower zones of the elytra, and is prominent in *M. maculatus* and other species. It is partly due to the dark tips of the hind wings, but can only be described as mottling, which it is not. Its inclusion as a fourth feature under the main elytral heading would solve the problem, for example E *b bb-nm bb-nm* would become E *bbbb-n*. The width of this patch is very variable.

Meanwhile, no complete account of colour variation in any British grasshopper has been published, although excellent keys to the more common varieties have been compiled. The English varietal names now used are convenient, and avoid the confusing mass of latin names used by lepidopterists, but are not of international application. Perhaps latinised names based on and describing the colours would widen their application but prevent confusion. It would be interesting to have other views on this question.

REFERENCES

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